FACILITIES MAINTENANCE (400)

Construction of new buildings and capital improvements to existing buildings and grounds are considered betterment work (see Section 600).

410.0 MISCELLANEOUS MAINTENANCE

The district will establish ongoing methods to ensure that resident offices, maintenance buildings, storage buildings, fuel pumps, equipment, etc., are locked when there are no ITD employees occupying the premises. Periodically check for signs of intrusion and theft and inventory the keys to the padlocks on the gates to ensure that security is maintained.

Report cases of theft or vandalism of state property immediately to local law enforcement officers and the Maintenance Supervisor.

Report building or yard fires. When a fire does occur, follow this procedure:

- Notify the fire department, the District Maintenance Engineer, the District Engineer, and the ITD Headquarters Maintenance Engineer.
- Write a complete report as soon as possible and send it to Risk Management with copies to the Chief of Administration, Financial Services, State Highway Administrator, Maintenance Engineer, and Safety Section.

Unannounced spot checks of facilities and equipment are made by personnel designated by the District Engineer and also by assigned ITD Headquarters employees. Inspections are documented on an ITD-2337 form (Figure 400-1) or in a letter.

Energy conservation and safe practices shall be a major consideration for the facilities at all times. Our ultimate goal is to provide a safe, economical, comfortable, and pleasing place to work.

As new facilities are constructed, a few points concerning criteria must be considered. Unless properly justified, a new yard or site for a maintenance building must contain not less than six acres or more than ten. The number of equipment bays to be constructed for a maintenance building must be justified on the amount and type of equipment assigned to the facility to support the road maintenance load. The size of the sand shed shall be justified on the winter climatic conditions for the need to store sand, the amount of sand to be stored, and the winter highway service levels assigned.

Figure 400-1

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BUILDING AND SAFETY INSPECTION CHECK LIST

District: _____ Date: _____

Building or Yard No.: _____

This list is only a reminder. Look for other items or conditions, and report them. A (√) indicates Satisfactory, (X) indicates Unsatisfactory, and (N/A) indicates Not Applicable.

411.2 EXTERIOR

Foundations ..... _____
Walls (Type and Condition) ..... _____
Finish (Type and Condition) ..... _____
Windows (Type and Condition) ..... _____
Doors - Personnel ..... _____
Doors - Overhead ..... _____
Trim ..... _____
Weather Stripping and Caulking ..... _____
Roof (Type and Condition) ..... _____
For Detailed Inspection Use Roof Inspection Form ITD-2753
Walks, Drives, and Parking Lots ..... _____
Landscaping ..... _____
Yard Area ..... _____
Fencing and Gates ..... _____
Fuel Dispensing ..... _____

11.3 INTERIOR

Walls (List Type) ..... _____
Wall Finish (List Type) ..... _____
Ceilings and Finish (List Type) ..... _____
Floors and Covering (List Type) ..... _____
Doors and Frames ..... _____
Windows and Frames ..... _____
Hardware, Locks, Hinges, Closers ..... _____
Stairways - Handrails ..... _____
Cabinets, Shelving, Work Areas ..... _____

411.4 ELECTRICAL

Distribution System

Wiring System ..... _____
Service Connections ..... _____
Main Panel - Fuses, Circuit Breakers, and Switches ..... _____
Branch Panels ..... _____
Auxiliary Disconnects ..... _____
Outlets ..... _____
Raceways ..... _____

Motors

Motor Starters ..... _____
Relays and Controls ..... _____

Lighting

Incandescent ..... _____
Fluorescent ..... _____
Mercury Vapor ..... _____
Sodium ..... _____

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Heating

- Base Board ..... _____
- Radiant ..... _____
- Thermostats and Controls ..... _____

Communications

- Telephones ..... _____
- Alarm Systems - Fire, Smoke ..... _____

Cords ..... _____
Operations and Maintenance Manuals ..... _____

411.5 **MECHANICAL**

Water Supply

- Fixtures ..... _____
- Drinking Fountains ..... _____
- Safety Showers and Eye Wash ..... _____
- Cleanouts, Floor Drains ..... _____
- Grease Traps, Sand Traps ..... _____
- Piping, Tubing, Valves ..... _____
- Pipe Insulation ..... _____
- Hot Water Heaters ..... _____
- Pumps ..... _____
- Sewer/Septic ..... _____

Air Supply

- Compressor and Controls ..... _____
- Piping and Valves ..... _____
- Strainers and Evaporators ..... _____

Heating and Cooling Systems

- Fuel Supply Lines ..... _____
- Pumps, Compressors ..... _____
- Fans - Circulation, Exhaust ..... _____
- Furnace ..... _____
- Coolers ..... _____
- Duct Work ..... _____
- Thermostats and Controls ..... _____
- Filters ..... _____

Fume Exhaust Systems ..... _____

Cranes and Hoist Equipment ..... _____
For Detailed Inspection Use Hoist Inspection Form ITD-2756
Operations and Maintenance Manuals ..... _____

411.6 **HOUSEKEEPING AND SAFETY**

- Exit Signs ..... _____
- Storage of Hazardous Materials ..... _____
- Disposal of Waste ..... _____
- Aisles, Stairs, and Floors ..... _____
- Storage of Tools and Equipment ..... _____
- Wash and Locker Rooms ..... _____
- Light and Ventilation ..... _____
- Safety Equipment-Goggles, Face Shields, Respirators, Etc.. _____
- Power Tools - Wiring, Guards, Tool Rests, Etc. ..... _____
- Ladders and Scaffolding ..... _____
- First-Aid Kits ..... _____

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Fire Extinguishers ..... _____
Bulletin Boards ..... _____
Safety Painting ..... _____
Red/Vermillion - Fire Equipment ..... _____
Black and White - Clear Areas ..... _____
- Fire Lanes ..... _____
Yellow - Overhead Door Guards and Jambs ..... _____
- Overhead Door Bottom Panel ..... _____
- Equipment Guards ..... _____
- Handrails ..... _____
Blue - Electrical Door Panels ..... _____
Green - Safety Equipment Locations ..... _____
- First Aid Kits Locations ..... _____

Others ..... _____

RECOMMENDATIONS OR COMMENTS

Each unsatisfactory condition to be covered by a recommendation.

No.	Recommendation or Comment	No.	Recommendation or Comment

Signed: _____
Inspector

Distribution - Copy the Original and Send: 1 Copy for District
1 Copy for Maintenance Supervisor

411.0 PREVENTIVE MAINTENANCE PROGRAM

Maintenance programs and personnel responsibilities are identified in the following sections.

411.1 Buildings and Yards

The objectives/goals of this program are:

- To keep ITD building facilities and their associated equipment in an optimum condition.
- To monitor ITD buildings and their associated equipment to ensure proper maintenance and repair.
- To perform these tasks economically and within the allocated budget.
- To minimize emergency repairs and maintenance.
- To ensure maximum compliance of ITD building facilities with building, safety, fire, and access codes.
- To acquire and maintain floor plans, diagrams, layouts, and photographs of each building, its components, and related drainage at the district office and at ITD Headquarters Maintenance Section.
- To keep up-to-date manufacturer's specifications on all equipment and materials used in our buildings.
- To set up a computer database for tracking building-related information. This would include developing a database of improvements needed to comply with updates in energy conservation, handicap access, and safety code improvements so these can be incorporated into major building remodeling projects.
- To ensure that an annual inspection and evaluation of each ITD building and related equipment is performed.
- To develop a building maintenance program whereby major building remodeling and replacement needs can be predicted and planned.
- To develop a building maintenance program whereby building preventive maintenance needs will be timely predicted and addressed.
- To maintain a record of building maintenance activities performed.
- To ensure that personnel know what to look for during inspections and what follow-up actions to take.

411.1.1 District/Headquarters General Services Responsibilities

Assign a building monitor in charge of building inspection/maintenance.

Provide at least one inspection per building per year.

Implement a preventative maintenance program for all ITD buildings, including POEs and rest areas.

Maintain a hard-file record (floor plan, maintenance, mechanical equipment, manuals, etc.) of the maintenance and repairs needed and performed on each building.

Accompany Department of Labor and Industrial Services inspectors, as needed.

411.1.2 Headquarters Maintenance Section Responsibilities

Assign a building coordinator for monitoring all ITD buildings in the districts and at headquarters.

Develop and maintain a computer database of inventory and the general condition status of all ITD yards and buildings.

Provide periodic spot inspections of ITD buildings.

Assist the districts and Headquarters General Services in implementation of a building preventive maintenance program.

Perform evaluations of roof conditions and recommendations for repair or replacement.

Assist the districts and Headquarters General Services in all aspects of building construction, necessary code compliance, and technical questions involving building repair and maintenance.

Provide technical assistance where violation of code compliance is discovered.

Perform the design of major remodel, rehabilitation, and replacement projects or procure design consultants.

Recommend energy conservation measures to be taken.

411.2 Preventive Maintenance Inspections and Service – Exterior

Inspections and service are performed in accordance with the following sections.

411.2.1 Structural Exterior (Annual Inspection)

For foundations, check the overall alignment of the structure. Look for settlement, deflection expansion, and contraction. Check the surface conditions for cracks, scaling, spalling, corrosion or chemical attack, deterioration, and water stains (does the area drain away from the building?).

For walls, inspect for appearance and condition of the wall finish. Check for blisters, cracks, and peeling. Check bolts, clips, rivets, nails, and other fasteners for tightness.

For metal buildings, check for rust and corrosion.

For masonry buildings, look for cracks, open mortar joints, efflorescence, and deterioration.

Repair all faults with state forces or outside contract as necessary.

411.2.2 Windows (Annual Inspection)

Inspect all windows and casements. Open and close windows to check for binding of operating devices. Clean and lubricate mechanisms. Keep locking devices in operable condition. Check glazing and repair as necessary.

411.2.3 Doors (Annual Inspection)

Examine jamb opening to ensure that the hinge and lock side are plumb and square. Keep all hinges, knobs, locks, rollers, guides, rails, and springs free from dirt, grease, and obstructions. Clean and lubricate all moving parts. Clean and lubricate motors according to the manufacturer's recommendations. Check all members for finish, swelling, shrinkage, and warpage. Clean door locks and lube with poxylube. Update the inventory for key control annually to prevent loss.

411.2.4 Overhead Doors (Semiannual Inspection)

Inspect, clean, adjust, and lubricate all overhead door tracks, rollers, cables, and lifting gear drives. Clean and lubricate motors according to the manufacturer's recommendations. Tighten or straighten the bracing members. Check all bolts for tightness, as they have a tendency to work loose. (Adjustment of door alignment and spring tension is essential to proper door operation. Qualified personnel must adjust the spring coil tension.)

411.2.5 Weather Stripping and Caulking (Annual Inspection)

Inspect all caulking and weather stripping for proper seal. Repair and replace as needed to keep these components effective. If new cracks have developed in the walls or around the windows and door frames, etc., caulk at this time. Use a high

quality caulking compound, such as silicone base compounds, for long life and durability.

411.2.6 Roofs (Annual Inspection)

All roof inspections should include photographs for maintenance records.

Check the supporting structure for expansion, contraction, cracks, spalling, deck supports, dry rot, moisture stains, and fasteners.

Give the system description (deck type, insulation, and roof type – BUR, coal tar, PVC, EPDM, hypalon, composition, wood, metal) and the general appearance (physical damage, debris, ponding water, etc.).

Inspect the roof for bare spots, blistering, splits, cracks, ridging, loose laps and seams, punctures, fasteners, slippage, and general deterioration.

Check flashing, counter flashing, coping, and parapet walls for any signs of deterioration.

Check all roof penetrations and mechanical equipment for signs of damage or deterioration.

Inspect the roof for drainage. Check for adequate slope. Look for signs of ponding water. Make sure the roof area and drains are clean and free of debris.

Most roofs require some type of venting, so check for adequate air flow, condensation, and eaves icing.

Roof inspections should be performed in the spring or early summer, so any repair work can be scheduled for the summer months. If it is economically feasible to completely rebuild the roof system, consider energy conservation as a factor in choosing a system.

For detailed roof inspection, an ITD-2753 form will be used by the roof inspector.

411.2.7 Walks, Drives and Parking Lots

Inspect the entire surfaced area annually. Include photographs in the maintenance records.

Check for holes, cracking, settling, edge breaking, and standing water. Determine the cause of any standing water. If the drainage area is clogged, clean it immediately. All concrete and asphalt areas are to be kept in a clean condition.

Seal concrete expansion/contraction joints with silicone sealer in all walkways, slabs, foundations, etc.

Schedule maintenance and repairs in a timely manner to avoid further damage or deterioration.

411.2.8 Yard Area (To Include Landscape, Fences, and Gates)

Establish an ongoing program for yard maintenance to keep the roads patched and the yard graded, drained, neat, clean, and arranged in an efficient working condition.

Maintain driveways in good condition. Do not store material or park vehicles on them. Whenever possible, designate definite parking areas for ITD equipment, employees' cars, and visitors' cars. Issue instructions for confirmation with this ruling. Where conditions allow it, paint traffic lines to guide the driver.

Schedule a work force, as needed (normally twice a year), to remove all weeds to eliminate fire hazards. Materials being stored can be palletized for easy movement to assist in this program.

Inspect areas around trees and shrubs for damage caused by root or branch systems (tree branches rubbing the roof membrane or roots causing cracks in foundations or walkways, etc.). Inspect for disease and pest damage. Consult the roadside foreman for information on diseases and control.

Adjust, tighten, and repair all security fences and gates, as required, so they are adequate for the use intended. Erect and maintain adequate signs to notify unauthorized personnel of the regulations within the grounds.

411.2.9 Fuel-Dispensing Station

Perform a visual inspection of the pumps and hoses. Look for loose fittings, cracked hoses, etc. All pumps should be fitted with a fuel hose breakaway valve. When possible, the pump panels should be removed to check for loose fittings, etc. The emergency shutoff switch is to be checked for proper function.

The uniform fire code requires a clearly labeled manually operated pump master switch to be located within 22.5 meters (75 feet), but not closer than 4.5 meters (15 feet), to the pump. Where such master switch is not visible from all dispensers, the location shall be indicated by approved signs. Signs identifying the pump master switch shall be labeled EMERGENCY PUMP SHUTOFF. The master switch on all individual pump circuit switches shall be set in the "off" position before closing the motor vehicle fuel-dispensing station for business at any time. Install appropriate signage if it does not already exist.

A fire extinguisher with a minimum rating of 2-A, 20-B:C is to be provided and located not more than 22.5 meters (75 feet) from any pump, dispenser, or fill pipe opening.

Schedule any necessary maintenance immediately.

411.3 Preventive Maintenance Inspections and Service – Interior

Inspections and service are performed in accordance with the following sections.

411.3.1 Walls, Ceilings, Floors and Finish

Check ceiling and walls for cracks, holes, stains, and signs of structural stress. Determine the cause of the defect and correct it before repairing the surface.

Check the ceiling and walls for overall appearance and schedule necessary cleaning or painting. Paint materials selected should be of high quality.

Inspect the floors for settling, warpage, curling edges, cracking, shrinkage, and operational abuse. Determine the cause and schedule repairs.

Check the floor finish and refinish as necessary.

Check the carpet for holes, snags, worn spots, and damaged seams. In areas of excessive use, reroute traffic by moving furniture if possible.

Check the carpet for cleanliness and clean the carpet as necessary (dry cleaning or steam cleaning). Care should be taken so the carpet does not get too wet. Avoid dry cleaning rubber-backed carpet, as solvents will cause deterioration.

For windows, doors, and hardware refer to Sections _____ and _____.

411.3.2 Stairways and Handrails

Keep stairways adequately illuminated and clear at all times. It is advisable to equip all stairways with nonskid treads.

All stairways having two or more risers, except those used to attend equipment only, require continuous handrails on each side. All handrails should project from the wall 3.81 centimeters (1 1/2 inches) and be mounted 86.36 centimeters (34 inches) to 96.52 centimeters (38 inches) above the nosing of treads and landings. Ensure that railing is secure and functional.

411.3.3 Cabinets, Shelving, and Work Areas

Check cabinets and hardware to ensure proper working condition.

All tiers and shelving units are to be secured to prevent sliding, falling, or collapsing.

All passageways, storerooms, and work areas are to be kept in a clean and orderly condition.

411.4 Electrical (Annual Inspection)

All electrical inspection and work are to be performed only by qualified personnel (electricians).

411.4.1 Distribution System

Check the wiring system for loose connections, bare conductors, defective outlets and switches, and faulty wire insulation. Look for signs of overheating, short circuits, grounds, and damaged or defective splices. Check for dirt, grease, and moisture. All wiring, fittings, and controls should be clean and dry.

All controls and outlets should be grounded to minimize accidents. All electrical devices installed near explosives or flammable materials must be explosion-proof. All receptacles installed in bathrooms or within 1.82 meters (6 feet) of a water source, and those installed in garages, shops, or outside, must have ground fault circuit-interrupter protection.

Inspect all electric panels. Check all fuses or breakers for proper operation, size, function, pitting, signs of heat, cracks, and labeling. Clean with low pressure air to remove dust. Remove covers on auxiliary disconnects and relays and clean in the same manner.

Where possible, check raceways for rust, corrosion, and other damage. Clean exposed areas.

411.4.2 Motors

Inspect and clean all electric motors properly with low pressure air to remove dust and clean any dirt or oil buildup with an approved solvent. Lubricate all bushings and bearings according to the manufacturer's recommendations. If the bearings or bushings show excessive wear, schedule replacement before the windings are damaged by rubbing on the motor fields or frames. Adjust any belts at this time. Ensure that motors have the proper guards in place and that the motor is receiving proper ventilation.

411.4.3 Lighting

Inspect and clean light fixtures, reflectors, and bulbs annually. If a large amount of dust accumulates, additional dusting is required.

Check for loose connections, faulty wiring, and slow starting or flickering bulbs.

411.4.4 Heating

Inspect and clean unit heaters, baseboard heaters, and fan blades of all residue, dust, and dirt buildup. Check for function or appliance. Look for cracked cords, faulty mechanisms, etc.

411.4.5 Communications

Check telephones for proper function, dial tone, any call lights, etc. Check cords for cracks or damage. Phone wiring should not run along floor space where there is any possibility of someone tripping over the cord or damage occurring to the line. Any repair work or changes to the phone system should be performed by qualified telephone company personnel.

Fire and smoke alarm systems require testing to ensure proper function. According to the Americans with Disabilities Act, any audible alarm system also must have visual strobe type alarms integrated into the system for the hearing impaired. See the ADA accessibility guidelines for specific requirements. Guidelines may be obtained from the ITD Headquarters Building Inspector.

411.4.6 Cords

Keep all drop cords, extension cords, and tool cords in good condition and free from breaks and fraying, which could cause shorting and fires. Do not cut or remove the ground prong from electrical cords. Do not locate extension cords in walkways or other paths of travel.

411.4.7 Operations and Maintenance Manuals

Keep all manuals and manufacturer's specifications on file. Refer to them for specific maintenance requirements. All electrical outlets in any building should be on a line drawing. Appliances, motors, panels, etc., should be included for easier maintenance and repairs.

411.5 Mechanical (Annual Inspection)

Inspections are performed in accordance with the following sections.

411.5.1 Water Supply

Water supply components consist of the following sections.

411.5.1.1 Fixtures

Inspect all fixtures, including drinking fountains, for leakage. Look at the surrounding area for signs of moisture. Check for proper functioning of sink faucets

and water closet flushing and ensure proper drainage. Remove the faucet face plate or strainer and clean mineral deposits. Keep fixtures in a clean condition. All service sink fixtures and fixtures that allow hose hookup require backflow preventers.

411.5.1.2 Safety Showers and Eye Wash Units

Safety showers and eye wash units must be provided where the eyes or body of any person may be exposed to injurious or corrosive materials and must be within the work area for immediate emergency use. Eye wash units must have a flow rate of .1514 liters per minute (0.4 GPM) for 15 minutes. Inspect, clean, and service these units semiannually to assure their working capability. Self-contained or portable eye wash units must have the same flow rate as fixed units, but should be serviced monthly.

411.5.1.3 Cleanouts, Drains, and Traps

All floor drain sumps and grease or sand traps are to be cleaned a minimum of once a year. These units can be cleaned only by pumping units or bucket and shovel methods. Do not flush this material into drain fields or sewer systems. Disposal of material must be accomplished in accordance with all applicable federal, state, and local regulations.

411.5.1.4 Piping, Tubing and Valves

Check exposed plumbing for leakage, corrosion, loose connections, loose bolts on flanges, and clamp-type connections. Inspect piping for the proper color coding as follows:

Fire Lines	Vermilion Red
High Pressure Steam	Dark Orange
Low Pressure Steam	Light Orange
Condensate Return Lines	Grayish White
Hot Water Heating Lines Supply	Dark Green
Return	Light Green
Domestic Cold Water	Dark Blue
Soft Water	Label every 3.048 meters (10 feet)
Domestic Hot Water	Light Blue
Chilled Water	Dark Blue with 15.24 centimeter (6-inch) yellow bands every (1.828 meters) (6 feet)
Air Lines	White
Gas Lines	Yellow
Waste and Vent Lines	Brown

Unexposed and underground plumbing requires looking for water stains on walls and ceilings, unexplained moisture on floors, and exterior evidence of leakage, ponding, erosion, and settlement of areas adjacent to piping.

Inspect valves for leakage and cracks. Clean the valve assembly and any strainers in or before the valve. Lubricate the valve stem and check the packing and seat.

Inspect pipe insulation for any damage and repair, as necessary. Care should be taken with insulation that might contain asbestos. When in doubt, have a sample tested for content.

Exposed hot water and drain pipes under lavatories used by physically disabled persons shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

Inspect water heaters for cleanliness, rust, corrosion, leakage, loose connections, automatic controls, combustion chambers, and burner assemblies. Lubricate any moving parts of mechanical devices. In order to reduce the possibilities of personal injury, all water heaters must have a pressure relief valve installed, with the discharge being piped to within 45.72 centimeters (18 inches) from the ground. Schedule any necessary repairs immediately.

All external pumps (not submersible pumps, etc.) are to be inspected and serviced annually. Check for general performance, liquid flow, and leaks. Inspect the diaphragm for cracks and leakage. Check the packing and lubricate the bearings.

For sewer and septic inspection, check for wastewater flow and leakage. Check any tanks that are directly connected with potable water supplies and sewer connections. Correct any possibility of backflow. Inspect any manhole frames and covers for rust, corrosion, poor fit, and physical damage. Check concrete surfaces for cracks, breaks, spalling, etc., and make repairs. Check the septic tank water and sediment levels. When sediment is within 60.96 centimeters (24 inches) or less of effluent invert, the septic tank should be pumped out. When the liquid level is high, outside flooding, defective operation of the siphon, or a clogged drainage field is indicated. Determine the cause and correct it.

411.5.2 Air Supply

Check and service the air compressor pressure relief valves and drain the condensate from the holding tanks. Check the compressor for oil leaks and tighten the seals or replace the gaskets as required. Check the air lines for cracks and loose fittings. A water separator, filter, and an air dryer may be added to the compressor if there is a large amount of condensate build up. The air compressor holding tanks are to be drained daily to prevent corrosive damage to the tank.

411.5.3 Heating and Cooling Systems

Inspect the fuel supply lines for leaks or possible problems.

Check all fluid levels. Check the heat pump for proper function. Clean and lubricate the bearings.

Clean the fan units with low pressure air. Lubricate the bearings. Check all belts for alignment and tension. For safety, all fans, belts, and similar equipment should have guards in place.

Turn off all gas- or oil-fired pilot lights on furnaces and unit heaters at the close of each heating season. At the start of each heating system, clean and relight the pilots. Clean any dust, oil, or grease buildup on the coils, heating elements, etc. Check the fuel lines for leakage or damage. Consider replacement of pilot lights with electronic firing devices in the future for conservation of energy.

Inspect and clean air conditioners and cooling units at the start of each cooling season.

Inspect all exposed duct work for air leaks, rust, and corrosion and make repairs as necessary. Maintain clean ducting and grill work.

Check all thermostats and controls for proper function.

Remove, clean, or replace all heating-cooling unit air filters a minimum of twice a year or per the manufacturer's instructions. If the filters show an excessive amount of dirt buildup, change them more frequently to prevent reduction of efficiency of the units. Check for a good seal around the filter units. A clean filter in the heating unit saves on fuel costs and interior painting.

When servicing oil-fired units, change the supply oil filter.

Except for air filter changes, all service work on heating-cooling units is to be performed by qualified personnel only.

411.5.4 Fume Exhaust Systems

Inspect the fume exhaust system (controls, etc.) for proper function. Keep the system in a clean condition. Clean or replace the air filters according to the manufacturer's recommendation. Lubricate moving parts as necessary.

411.5.5 Hoist Inspections

Overhead hoists located in the shops, maintenance sheds, and any other buildings within the districts will be inspected on a daily, monthly, and annual basis. The daily and monthly inspections will be performed by the operator and/or the district hoist inspector following the manufacturer's suggested procedure outlined in the operator's manual. The annual inspections will be performed by one of the district hoist inspectors trained to perform these inspections. The inspections will be done in accordance to the manufacturer's recommended procedures and to OSHA and ANSI standards. All monthly and annual inspections will be documented on an ITD-2756 form and kept on file in the building in which the hoist is mounted. One copy is to

be retained in the district shop so that the hoist inspectors will have easy access to these files.

411.5.6 Operation and Maintenance Manuals

Ensure that all manuals and manufacturers' specifications are on file. Refer to them for specific equipment maintenance requirements. All mechanical equipment, piping, and fixtures should be included in the building line drawing.

411.6 Housekeeping and Safety

Maintenance and inspections are performed in accordance with the following sections.

411.6.1 Exit Signs

Inspect, clean, and service lights and exit devices semiannually. Every exit sign must be suitably illuminated. Some exit sign lights require bulb changes frequently, unless a heavy-duty, industrial, long-life, low-wattage bulb is used. Bulbs shall have an intensity of not less than 53.82 lumen per square meter (LUX) (5.0 foot candles).

411.6.2 Storage and Disposal of Hazardous Materials

The storage of hazardous materials and disposal of hazardous materials is outlined in Section ___ of this manual. Section ___ outlines the employee's responsibility for emergency response. Section ___ outlines in-house emergency spill procedures. Please refer to these sections when dealing with hazardous materials and wastes.

411.6.3 Aisles, Stairs and Floors

Every exit, aisleway, stairway, and way of travel or open space shall be continuously maintained free of all obstructions or impediments for full instant use in case of fire or other emergency.

All such areas shall be kept clean, orderly, and in a sanitary condition.

411.6.4 Storage of Tools and Equipment

Keep benches, machines, and floors free from accumulating trash, grease, and dirt. Do not leave tools and/or equipment lying around. When tools and equipment are not in use, store them in their assigned carrying case, cabinet, shelf, etc.

411.6.5 Wash and Locker Rooms

Wash rooms, showers, and locker rooms are to be kept in a clean and sanitary condition. Showers are to contain hot and cold water and appropriate cleansing agents.

411.6.6 Light and Ventilation

Windows, skylights, and light reflectors shall be maintained in a reasonably clean condition and work places shall be appropriately illuminated based on the nature of the operation.

Ventilation shall be adequately provided in all buildings and structures customarily used by personnel. Both natural ventilation and mechanically operated ventilating systems shall be utilized. In areas where toxic and noxious and/or objectionable fumes are present, ventilation shall be to the outside of the building.

411.6.7 Safety Equipment

Inspect safety and protective equipment to ensure adequate protection against the particular hazards for which they are designed. The equipment shall fit snugly, be reasonably comfortable, and shall not unduly interfere with the movement of the wearer. All safety equipment shall be approved by the American National Standard Practices, OSHA, or other regulating organization.

Equipment is to be kept in proper repair and a clean condition. Inspection should be performed during the cleaning process.

For requirements for respirator use, regulations, and control, refer to the Safety/ Loss Control Manual.

4.11.6.8 Power Tools

Check cords for frays or damage. Cords shall be double insulated or be the grounded type (3-wire). Do not use any tool or cord that has the ground prong removed.

Inspect power tools for required guards, guides, and tool rests. Look for worn or damaged parts. Remove any tool from service that has any defect. Where applicable check the fluid levels and lubricate equipment according to the manufacturer's recommendations.

411.6.9 Ladders and Scaffolding

All ladders are to have a Type I or Type II rating, depending on its intended use. Ladders shall be maintained in good condition at all times. All steps, side rails, and hardware shall be securely attached and the movable parts shall operate freely without binding or undue play. Frayed or badly worn rope shall be replaced. Ladders shall be inspected frequently and those that have developed defects shall be withdrawn from service until repaired or destroyed and shall be tagged as "DANGEROUS, DO NOT USE."

Scaffolds shall conform to Sections 2501 through 2516 of Chapter Y of the Idaho Safety Code 1. Scaffolds shall be capable of supporting, without failure, at least four times the maximum intended load and shall be maintained in a safe condition.

Any scaffold damaged or weakened from any cause shall be immediately repaired and shall not be used until repairs have been completed.

411.6.10 First-Aid Kits

First-aid kits shall be made available and accessible to all personnel.

Inspect, inventory, and restock first-aid kits at least twice a year. Approved first-aid supplies must be readily available to comply with OSHA Safety and Health Standards (29 CFR 1920).

411.6.11 Fire Extinguishers

Fire extinguishers shall be conspicuously located where they will be readily accessible and immediately available in the event of a fire. They shall be located along normal paths of travel and shall not be obstructed or obscured from view. One extinguisher will serve 185.8 to 232.25 square meters (2,000 to 2,500 square feet) of floor space, depending on its type and capacity.

A certified person (contracted service) is to inspect, weigh, clean, and service all fire extinguishers at least once a year. Mark and date the inspection card that must be attached to the fire extinguisher at all times. Damaged, discharged, or faulty extinguishers should be replaced.

The monthly visual inspection and marking of the card is required by OSHA Safety and Health Standards (29 CFR 1920). Fire extinguishers shall be inspected visually to ensure that they are in the designated places, have not been activated or tampered with, and to detect any obvious physical damage, corrosion, or other impairments. Monthly inspections are to be performed by ITD maintenance personnel.

411.6.12 Bulletin Boards

Every maintenance building, shop, garage, and office shall have a bulletin board reserved for posting safety memoranda, posters, and other information pertaining to safety.

The bulletin boards shall be located in a prominent, well-illuminated place where they will be readily accessible to the greatest number of employees.

411.6.13 Safety Painting

Inspect all areas requiring safety painting. The required colors are as follows (see Figures 400-2 and 400-3):

Red/vermilion	Fire equipment
Black and white	Clear areas
Yellow	Overhead door guards, jambs, and bottom panels; equipment guards; and handrails
Blue	Electrical door panels
Green	Safety equipment locations and first-aid kit locations

Figure 400-2

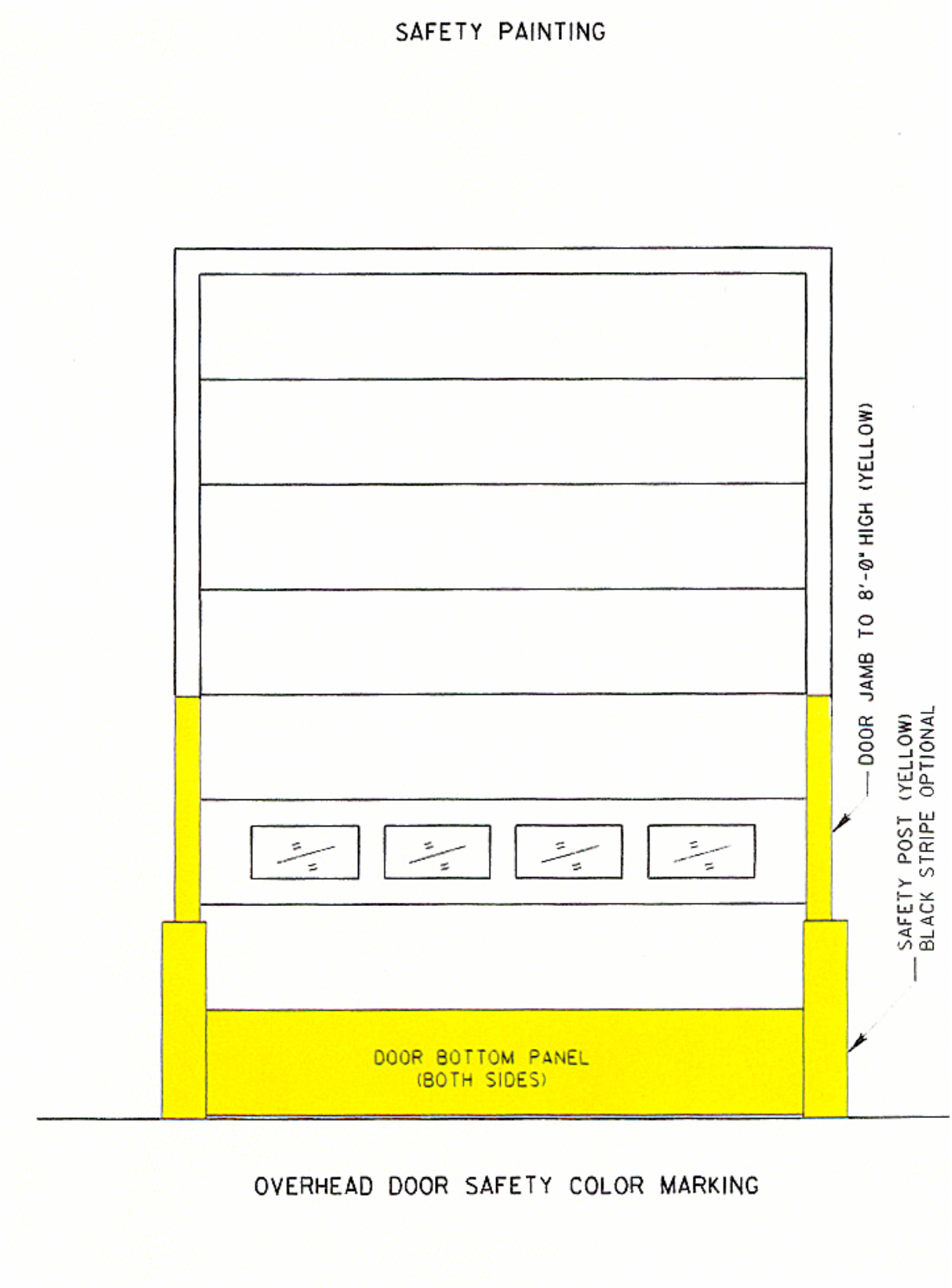
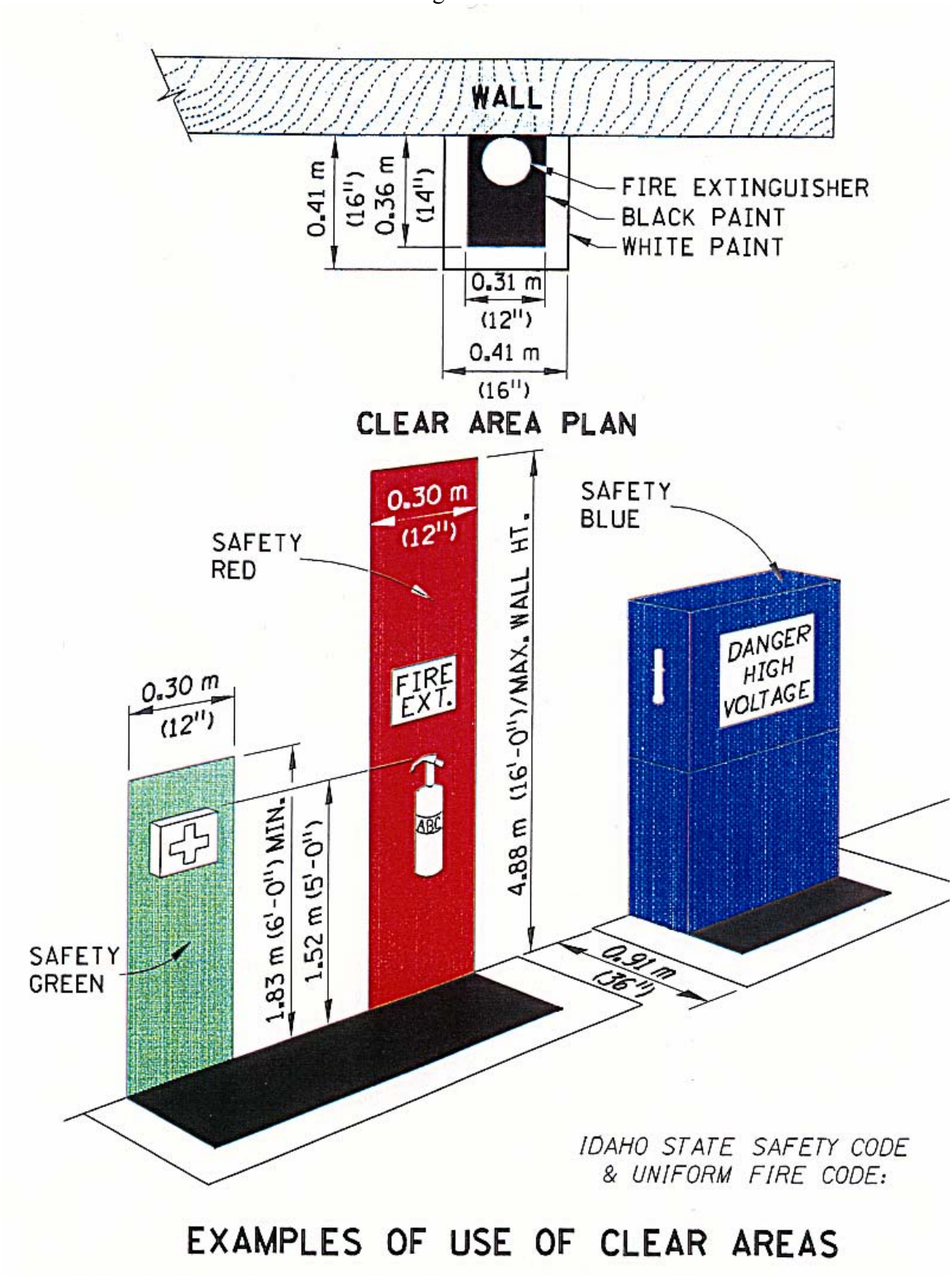

SAFETY PAINTING
DOOR JAMB TO 8'-Ø" HIGH (YELLOW)
SAFETY POST (YELLOW)
BLACK STRIPE OPTIONAL
DOOR BOTTOM PANEL
(BOTH SIDES)
OVERHEAD DOOR SAFETY COLOR MARKING

Figure 400-3


WALL
0.41 m
(16")
0.36 m
(14")
FIRE EXTINGUISHER
BLACK PAINT
WHITE PAINT
0.31 m
(12")
0.41 m
(16")
CLEAR AREA PLAN
SAFETY
RED
0.30 m
(12")
FIRE
EXT.
ABC
SAFETY
BLUE
DANGER
HIGH
VOLTAGE
4.88 m (16'-0") MAX. WALL HT.
0.30 m
(12")
1.83 m (6'-0") MIN.
1.52 m (5'-0")
SAFETY
GREEN
0.91 m
(36")
IDAHO STATE SAFETY CODE
& UNIFORM FIRE CODE:
EXAMPLES OF USE OF CLEAR AREAS

412.0 SAND SHEDS

Extensive damage has been experienced in some concrete and metal sand sheds as a result of salt storage. Salt or wet sand-salt mixtures should not be placed in contact with concrete or metal. In those instances where it is possible that this may occur, extreme care must be taken to prevent the intrusion of chlorides into the concrete and metal surfaces by use of suitable sealer, coatings, or liners.

413.0 MAINTENANCE WORK REQUESTED BY THE BUREAU OF COMMUNICATIONS AND OTHER STATE AGENCIES

Other state agencies occasionally request that maintenance or minor construction work be accomplished at their facilities by ITD forces. Before any work that will cost more than $1,000.00 is performed, a written request detailing the work must be submitted to the Maintenance Engineer for approval. If approval is granted, a work authorization is initiated for the project. Projects that exceed $15,000.00 require approval of the Permanent Building Fund Advisory Council (PBFAC). Approval will be coordinated through the Maintenance Engineer and the Division of Public Works.

Further information and procedures regarding work performed for other state agencies can be obtained from Administrative Policy A-19-02; the Financial Accounting Manual, Section 19-5.5; and the P&MM Manual, Section 29-650; or by contacting the Maintenance Engineer.

414.0 USED OIL

414.1 Used Oil Generation

ITD vehicle repair shops, service stations, and state road maintenance fleets are considered as used oil generators.

Used oils include crank case oils, gear oils, brake fluids, transmission fluids, and hydraulic oils. USED OIL CANNOT CONTAIN ANY PART OF WASHER FLUIDS, CARBURETOR CLEANER FLUIDS, BRAKE FLUIDS OR ANTIFREEZE.

414.2 Used Oil Management

DO NOT mix hazardous waste or other contaminated oils with your recyclable used oil, with the exception of diesel for use in used oil furnace units.

Used oil SHALL NOT be applied as a dust suppressant at any time.

Utilize good housekeeping procedures and encourage safe collection policies.

414.3 Used Oil Storage

Store used oil in clean, closed tanks or containers compatible with used oil. Storage containers shall be located outdoors.

Keep tanks and containers in good condition; no severe rust, no apparent structural defects or deterioration, and no visible leaking shall be present.

Used oil containers, aboveground tanks, and fill pipes on underground tanks shall be labeled or marked clearly with the words "Used Oil."

Insure all UNDERGROUND oil storage tanks (except for tanks used for storing heating fuels) with the State of Idaho Petroleum Storage Tank Fund.

Insure any ABOVEGROUND oil storage tank (except for tanks used for storing hearing fuels) with the State of Idaho Petroleum Storage Tank Fund. The decision to insure or not to insure ABOVEGROUND storage tanks lies with the District Engineer.

414.4 Used Oil Releases and Spills

Upon releasing or spilling used oil, the following cleanup steps must be performed:

1. Stop the release.
2. Contain the released used oil.
3. Clean up and manage the used oil, as well as cleaning materials, properly.
4. Repair or replace any leaking container prior to reusing it.
5. If the spill or release is greater than 25 gallons and cannot be cleaned up within 24 hours, notify the regional Division of Environmental Quality office.

414.5 Used Oil Accounting

Request and file all used oil recycler/transport company shipment receipts in order to account for outgoing used oil quantities.

Keep a running account of the quantities stockpiled for burning in any used oil furnace.

414.6 Transporting Used Oil

Used oil taken from a satellite shed to the district headquarters facility shall not exceed more than 55 gallons at one time per vehicle.

Used oil transported off site by anyone, other than ITD employees utilizing ITD vehicles, must be done by a registered transporter that has acquired an EPA identification number to transport used oil.

414.7 Used Oil Filter Management

The following sections are instructions for draining, storing, etc., used oil filters.

414.7.1 Draining Used Oil Filters

All used oil filters shall be punctured and hot drained for a minimum of 12 hours before they are crushed and/or recycled as scrap metal or disposed of.

(Hot draining means removing the filter from the engine after the engine is at operating temperature. Hot draining can also be done by heating the filter after removal from the engine to ensure adequate drainage of the oil from the filter.)

414.7.2 Storage of Used Oil Filters

Used oil filters shall be stored in open topped 55-gallon barrels. Under current regulations, used oil filters may be stored indefinitely if they are to be recycled.

414.7.3 Disposal of Used Oil Filters

Light-duty truck and car screw-on oil filters can be drained of oil and disposed of as a solid waste in an approved landfill. Heavy-duty vehicle spin-on oil filters must be handled as hazardous waste, and they are NOT to be disposed of in a landfill.

414.7.4 Recycling of Used Oil Filters

Identify and use local recyclers in your area that will take used oil filters.

414.8 Regulations for Used Oil Furnaces

Used oil generators may burn used oil in oil-fired space heating systems, provided that the generator burns **ONLY** used oil received from ITD facilities. The heater must have a capacity of less than 0.5 million BTU per hour and be exhausted to the ambient air. Label the storage tank and fill pipes "USED OIL."

415.0 FUEL STORAGE TANKS

The procedures are outlined in the following sections.

415.1 UST Record Keeping

Federal regulations require tank owners to maintain the following information. This information should be kept on site and in the district headquarters.

415.1.1 Leak Detection

Certification of recent compliance with release detection requirements (including the manufacturer's performance claims and calibration and maintenance records) for a minimum of 5 years.

Monthly logs of leak detection activity for a minimum of 1 year.

Tightness test results until the next test.

415.1.2 Corrosion Protection Monitoring

Documentation of operation of the corrosion protection equipment.

415.1.3 Repairs to UST Systems

Documentation of any UST system repairs (e.g., addition of spill and overfill equipment, line leak detector testing/replacement, etc.).

415.1.4 Results of Site Investigation for Tank Closure

Results of any site investigations conducted for any post-1988 tank closure.

415.1.5 Changes in Operations

New installations.

Closures.

Reports of suspected release investigations.

Corrective actions taken.

415.1.6 State Registration Requirements

Register all underground fuel storage tanks (except for tanks used for storing heating fuels). Update any registration to reflect changes or repairs to any fueling systems.

415.1.7 Fuel Storage Tank Insurance

Insure all UNDERGROUND fuel storage tanks with the State of Idaho Petroleum Storage Tank Fund.

The decision to insure or not to insure ABOVEGROUND fuel storage tanks lies with the District Engineer (refer to Administrative Policy A-05-09, Fuel Storage tank Insurance).

415.2 Leaking Fuel Storage Tanks

The Maintenance Engineer, Assistant Maintenance Engineer, or ITD Underground Storage Tank Coordinator shall be notified immediately when a leak is discovered from an ITD fuel storage facility. If the tank is insured with the Petroleum Storage Tank Fund (PSTF), the entire problem of cleanup and mitigation shall be administered by them. Contact with the insurer will be made in writing by the Maintenance Engineer. If the tank is not insured with the PSTF, cleanup and mitigation will be done by state and/or contract forces. The Maintenance Engineer will request the assistance of the Environmental Section Supervisor and the Consultant Agreement Administrator and other resources as required.

415.3 Spill Prevention Control and Countermeasure (SPCC) Plans

The purpose of an SPCC Plan is to form a spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific AST facility. These requirements are outlined in the Code of Federal Regulations.